Mult $(m \times n)(n \times m) = m \times m$

Add/sub : Must be the same.

$(3 \times 1) \quad (m \times n) + (m \times n) = (m \times n)$

$(1 \times 3)^T$

$$\begin{bmatrix} 3 \\ 2 \\ 1 \end{bmatrix} + \begin{bmatrix} 3 & 2 & 1 \end{bmatrix}$$

Determinant of (n x n) matrix A.

For a 2x2 matrix:

$|A|$ ← this is how you write it

$$[A] = \begin{bmatrix} a & b \\ c & d \end{bmatrix}$$

$$\det A = |A| = ad - cb$$

Ex $[B] = \begin{bmatrix} 5 & 4 \\ 3 & 1 \end{bmatrix}$

$\det B = |B| = 5 \cdot 1 - 4 \cdot 3$

$= 5 - 12 = \boxed{-7}$

Ex $\begin{vmatrix} 6 & 3 \\ -2 & 1 \end{vmatrix} = 6 + 6 = \boxed{12}$

3 x 3

$$\begin{vmatrix} 4 & -1 & 2 \\ -3 & -2 & -1 \\ 0 & 5 & 1 \end{vmatrix} = -21$$

used calculator.

$$\underset{2\times 3}{\begin{bmatrix} 3 & 4 & 2 \\ 1 & 0 & 7 \end{bmatrix}} \cdot \underset{3\times 2}{\begin{bmatrix} 4 & 1 \\ 2 & -4 \\ 0 & 3 \end{bmatrix}} = \underset{2\times 2}{\begin{bmatrix} 3\cdot 4 + 4\cdot 2 + 20 & \\ & \end{bmatrix}}$$

$$= \begin{bmatrix} 12+8+0 & \\ & \end{bmatrix}$$

$$= \begin{bmatrix} 20 & \end{bmatrix}$$

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3-10 → do by hand

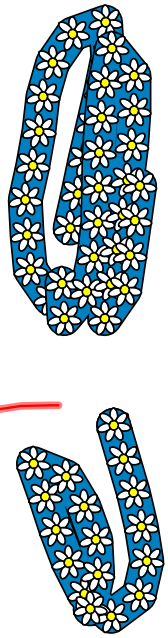
11-14 → in calculator

Then graph the inequalities system

$x > 1$

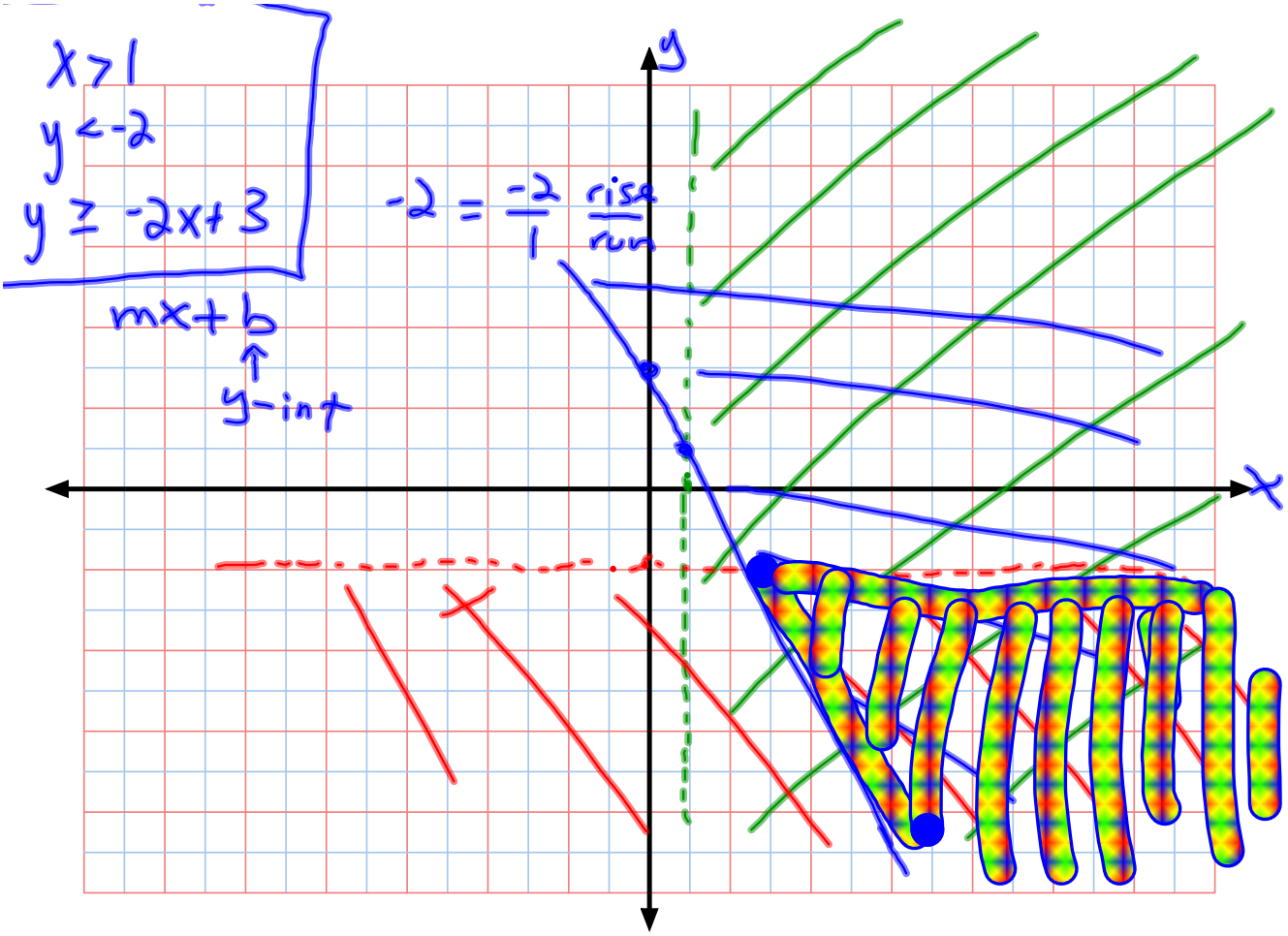
$y < -2$

$y \geq -2x + 3$



$$\begin{bmatrix} -4 & 3 \\ 1 & -7 \end{bmatrix} = -4 \cdot -7 - 1 \cdot 3$$

$$28 - 3 = \boxed{25}$$


x > 1
y < -2
y ≥ -2x + 3
-2 = -2/1 rise/run
mx + b
y-int
y
x